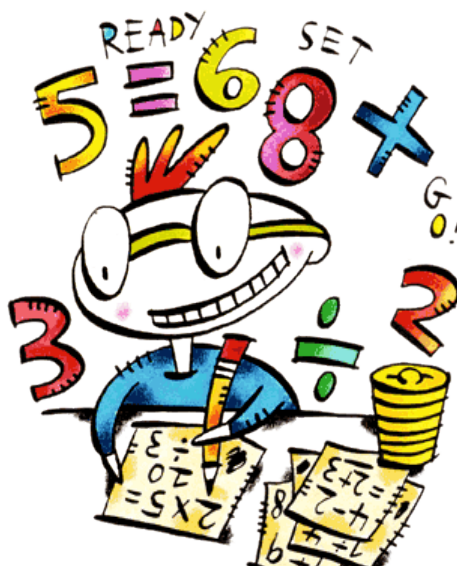


Gnosall St. Lawrence C.E Primary Academy

Working together, with Jesus beside us, to achieve our full potential.

Expectations in Mathematics

Year 4



Number and Place Value

What does my child need to be able to do?

Recognise the place value of each digit in a 4 digit number.

What does this mean?

Your child can refer to the place value columns: thousands, hundreds, tens and ones.

Your child can identify that in the number 4076 (for example), there are 4 thousands, 0 hundreds, 7 tens and 6 ones.

Your child can write 4 digit numbers using both figures and words.

What does this look like in context?

Digital value

Show the value of the digit 4 in these numbers.

3041 4321 5497

Explain how you know.

Number and Place Value

What does my child need to be able to do?

Find 1000 more or less than a given number.

What does this mean?

Your child can add or subtract 1000 from any 4 digit number, e.g. $6789 + 1000$ or $3456 - 1000$.

What does this look like in context?

1000 more	Starting number	1000 less
	3467	
2219		
		665

Number and Place Value

What does my child need to be able to do?

Order and compare numbers beyond 1000.

What does this mean?

Your child can put a sequence of 4 digit numbers in ascending and descending order (smallest to largest and largest to smallest).

What does this look like in context?

If you wrote these numbers in order from largest to smallest, which number would be fourth?

5331, 1335, 1533, 5313, 5133, 3513, 3531

Explain the process of your ordering.

Number and Place Value

What does my child need to be able to do?

Round any number to the nearest 10, 100 and 1000.

What does this mean?

Your child recognises that when rounding to: the nearest 10 he/she must look at the ones column, the nearest 100 he/she must look at the tens column and the nearest 1000 he/she must look at the hundreds column.

Furthermore, your child knows that digits of 5 or more round up and 4 or less round down (possibly using rhymes to help them to remember these rules).

What does this look like in context?

Rounding

A number, rounded to the nearest ten, is 540. What is the smallest possible number it could be?

Number and Place Value

What does my child need to be able to do?

Read and write Roman numerals to 100.

What does this mean?

Your child can identify the following 5 values in the Roman numeral system:

I = 1

V = 5

X = 10

L = 50

C = 100

Your child can use the above to identify all of the numbers between 1-100, e.g. VIII = 8 and IX = 9.

What does this look like in context?

Order these answers from greatest to smallest

XXII + XXXV =

XXXI + LIV =

LXIII + XXVI =

LV + XXII =

LXXI + XXXVIII =

LXV + XXXII =

Number and Place Value

What does my child need to be able to do?

Count backwards through zero to include negative numbers.

What does this mean?

Your child recognises that when counting backwards from zero, we refer to negative numbers, e.g. minus four (spoken form)/-4 (written form).

Your child can also identify contexts in which negative numbers might be used (such as temperature).

What does this look like in context?

Anna is counting down from 11 in fives. Does she say -5? Prove it.

Number and Place Value

What does my child need to be able to do?

Count in multiples of 6, 7, 9, 25 and 1000.

What does this mean?

Your child is developing their understanding of multiplication tables and associated inverse division facts, e.g. $4 \times 6 = 24$ and $24 \div 6 = 4$.

Your child recognises patterns when counting in larger multiples, e.g. 25, 50, 75, 100, 125, 150, 175 and so on...

What does this look like in context?

Fill in the missing numbers:

14		28	35	
----	--	----	----	--

100			175	200
-----	--	--	-----	-----

Addition and Subtraction

What does my child need to be able to do?

Add and subtract numbers with up to 4 digits using the formal written methods.

What does this mean?

789 + 642 becomes

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \\ \hline 1 \quad 1 \end{array}$$

Answer: 1431

874 - 523 becomes

$$\begin{array}{r} 874 \\ - 523 \\ \hline 351 \\ \hline \end{array}$$

Answer: 351

What does this look like in context?

Complete the calculation

$$\begin{array}{r} \square 04 \\ - 2\square 1 \\ \hline 34\square \end{array}$$

Addition and Subtraction

What does my child need to be able to do?

Estimate and use inverse operations to check answers to a calculation.

What does this mean?

Estimate by rounding numbers to the nearest 10, 100 or 1000 and completing a mental calculation.

When solving an addition question, use the inverse operation (subtraction) to check that the answer is correct, e.g. $1678 + 3984 = 5662$ so $5662 - 3984 = 1678$.

What does this look like in context?

Estimate the answers to these number sentences. Show your working out.

$$3243 + 4428 =$$

$$7821 - 2941 =$$

Addition and Subtraction

What does my child need to be able to do?

Solve addition and subtraction two step problems in context.

What does this mean?

Your child can solve a problem comprising of two separate steps, e.g. the leisure centre shop has 620 pairs of goggles to sell. It sells 275 pairs on 1 day and 340 on the next day. How many pairs are left in the shop?

What does this look like in context?

A supermarket has 1284 loaves of bread at the start of the day. During the day, 857 loaves are sold and a further 589 loaves are delivered. How many loaves of bread are there at the end of the day?

Multiplication and Division

What does my child need to be able to do?

Recall multiplication and inverse division facts, up to, 12×12 .

What does this mean?

Your child can remember both the multiplication and division facts for each table up to 12, e.g. $3 \times 6 = 18$ and $18 \div 6 = 3$.

What does this look like in context?

Missing numbers

$$72 = \square \times \square$$

Which pairs of numbers could be written in the boxes?

Multiplication and Division

What does my child need to be able to do?

Use known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1 and multiplying three numbers.

What does this mean?

Your child recognises that when multiplying by 0, the answer will always be 0 and that when multiplying by 1, the answer will always be itself.

When multiplying three numbers, your child recognises the need to perform the first part of the calculation first, e.g. for $2 \times 3 \times 4$ you would do $2 \times 3 = 6$ and then $6 \times 4 = 24$.

What does this look like in context?

Fill in the missing numbers:

$$\begin{aligned} \square \times 1 &= 13 \\ 12 \times 0 &= \square \\ 3 \times 2 \times \square &= 18 \end{aligned}$$

Multiplication and Division

What does my child need to be able to do?

Recognise and use factor pairs and commutativity in mental calculations.

What does this mean?

Addition and multiplication have the property of commutativity - when two numbers are added or multiplied, this can be done in any order and the same answer will be obtained: $3 + 2 = 5$, $2 + 3 = 5$; $4 \times 6 = 24$, $6 \times 4 = 24$.

What does this look like in context?

Find the missing numbers

$$12 \times 6 = 6 \times \underline{\quad}$$

$$2 \times 3 \times 5 = \underline{\quad} \times 5$$

$$2 \times 7 \times 5 = \underline{\quad} \times 5$$

Multiplication and Division

What does my child need to be able to do?

Multiply two and three digit numbers by a one digit number using the formal written method.

What does this mean?

24×6 becomes

$$\begin{array}{r} 24 \\ \times 6 \\ \hline 144 \\ \hline 2 \end{array}$$

Answer: 144

What does this look like in context?

Find the mistake that has been made in the calculation $47 \times 8 = 3256$. Explain and correct it.

Multiplication and Division

What does my child need to be able to do?

Solve increasingly complex problems involving multiplication and addition.

What does this mean?

Your child can use the distributive law to multiply a two digit number by a one digit number and solve correspondence problems such as n objects are connected to m objects.

What does this look like in context?

Jenny needs to buy 20 cupcakes for a party.

A shop has two offers on cupcakes.

5 cupcakes
for 40p

4 cupcakes
for 30p

Which offer is better?

How much money will Jenny spend altogether?



Fractions and Decimals

What does my child need to be able to do?

Recognise and show, using diagrams, families of common equivalent fractions.

What does this mean?

Your child can use a fraction wall or their understanding of multiplication to identify equivalent fractions, e.g. $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$.

What does this look like in context?

Complete the statements:

$$\frac{2}{5} = \frac{\quad}{10}$$

$$\frac{\quad}{4} = \frac{2}{\quad}$$

Fractions and Decimals

What does my child need to be able to do?

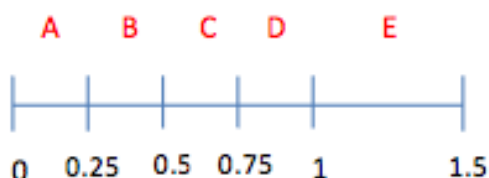
Count up and down in hundredths.

What does this mean?

Your child recognises the place value of hundredths and that they arise when an object is divided by a hundred or tenths are divided by ten. Your child also recognises that these can be recorded in both fraction and decimal form.

What does this look like in context?

Write down a fraction that could go in each section of the number line.



Fractions and Decimals

What does my child need to be able to do?

Add and subtract fractions with the same denominator.

What does this mean?

Your child recognises that when adding and subtracting fractions the numerator changes but the denominator remains the same, e.g. $\frac{3}{5} + \frac{1}{5} = \frac{4}{5}$.

What does this look like in context?

How many different ways can you complete the calculation?

$$\frac{\square}{\square} + \frac{\square}{\square} = \frac{8}{9}$$

$$\frac{\square}{\square} - \frac{\square}{\square} = \frac{8}{9}$$

Fractions and Decimals

What does my child need to be able to do?

Recognise and write decimal equivalents of any number of tenths and hundredths; and record the decimal equivalents for $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$.

What does this mean?

Your child can find fraction and decimal equivalents, e.g. $0.7 = \frac{7}{10}$ and they also recognise that $\frac{1}{4} = 0.25$, $\frac{1}{2} = 0.5$ and $\frac{3}{4} = 0.75$.

What does this look like in context?

What fraction has been made in the ten frame? What decimal has been made?



Fractions and Decimals

What does my child need to be able to do?

Find the effect of dividing a one or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.

What does this mean?

Your child can complete calculations such as $6 \div 10 = 0.6$ and $6 \div 100 = 0.06$.

What does this look like in context?

Jessie and Tammy are dividing numbers by 10 and 100. They start with the same 1 digit number.

My number has 0 ones
and 4 tenths



My number has 0 ones, 0
tenths and 4 hundredths

What number did they start with?
Prove it.

Fractions and Decimals

What does my child need to be able to do?

Round decimals with one decimal place to the nearest whole number.

What does this mean?

Your child recognises that where the tenths digit is 5 or more, the decimal will round up to the next whole number, e.g. 7.7 would round to 8; where the tenths digit is 4 or less, the decimal will round down, e.g. 3.4 would round to 3.

What does this look like in context?

Sort the numbers below into the table rounding each of them to the nearest whole number.

23.1	23.2	24.4
23.5	23.4	24.3
23.9	22.8	22.5

Rounds to 23	Rounds to 24

Measurement

What does my child need to be able to do?

Convert between different units of measure (e.g. metres to kilometres) and solve problems involving conversion.

What does this mean?

Your child recognises the link between different units of measure, e.g. seconds and minutes, minutes and hours, hours and days, days and weeks and so forth

What does this look like in context?

Five friends are running a race. Their times are below. Can you work out in what order they finished?

Emily - 1 minute 32 seconds

Simon - 95 seconds

Lucy - 1 minute 28 seconds

Tony - 89 seconds

Carrie - 100 seconds

Measurement

What does my child need to be able to do?

Measure the perimeter of a rectilinear figure and find the area of a rectilinear figure by counting squares.

What does this mean?

Perimeter = length of all of the sides added together.

Area = space covered inside the shape.

What does this look like in context?

A rectangle is 6 squares long and 3 squares wide

Amy says;

The area must be 9 squares.

Do you agree?

Draw the rectangle to prove your answer.

Measurement

What does my child need to be able to do?

Estimate, compare and calculate different measures, including money in pounds and pence.

What does this mean?

Your child can order and compare different amounts of money and recognises that there are 100 pence in £1.00.

What does this look like in context?

Which would you rather have, five 50p coins or twelve 20p coins? Explain why.

Measurement

What does my child need to be able to do?

Read, write and convert time between analogue and digital 12 and 24 hour clocks.

What does this mean?

Your child recognises that 12 hour time includes AM or PM at the end and that the 24 hour time measures time from midnight (0000) to midnight (2400).

What does this look like in context?

Working backwards

Put these times of the day in order, starting with the earliest time.

A: Quarter to four in the afternoon

B: 07:56

C: six minutes to nine in the evening

D: 14:36

Geometry

What does my child need to be able to do?

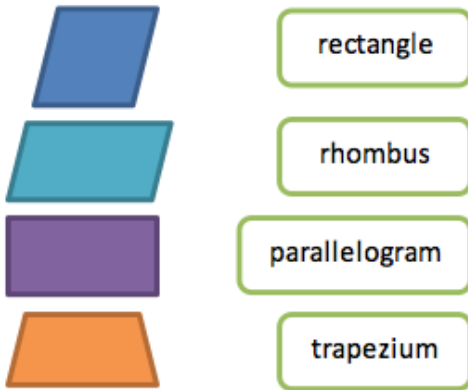
Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

What does this mean?

Your child can use the terms: scalene triangle, isosceles triangle, equilateral triangle, rectangle, parallelogram, rhombus, trapezium and kite. They can also refer to sides, angles and angles.

What does this look like in context?

- Match the quadrilaterals to their names.



Geometry

What does my child need to be able to do?

Identify acute, right and obtuse angles.

What does this mean?

Your child can compare and order angles by looking at their size.

What does this look like in context?

Pair the lines below to make an acute angle, a right angle and an obtuse angle.



Geometry

What does my child need to be able to do?

Identify and complete lines of symmetry in 2D shapes presented in different orientations.

What does this mean?

Your child can use a mirror to find lines of symmetry and they recognise that when something is symmetrical it is exactly the same on both sides.

What does this look like in context?

Draw a non-right angled triangle with a line of symmetry.

Geometry

What does my child need to be able to do?

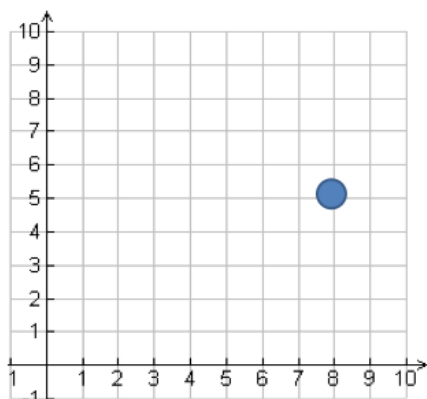
Describe positions on a 2D grid as coordinates in the first quadrant and describe movements using left/right and up/down.

What does this mean?

Your child recognises that when describing coordinates or translations that the rule “along the corridor and up the stairs” must be applied.

What does this look like in context?

Point A is marked on the grid.



Henry says that point A is at (5,8)

Aisha says that point A is at (8,5)

Who is correct? Can you explain what mistake one of the children has made?

Geometry

What does my child need to be able to do?

Plot specified points and draw sides to complete a given polygon.

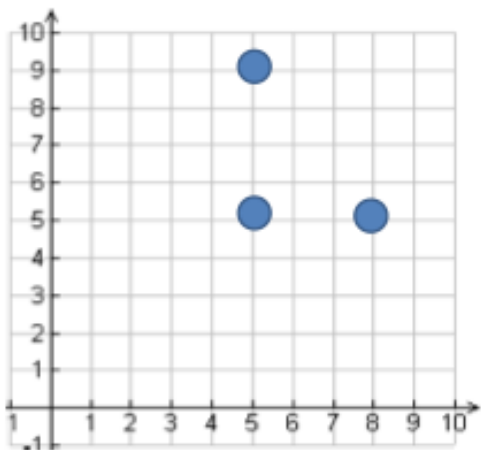
What does this mean?

Your child can use the rule “along the corridor and up the stairs” to plot points on an intersection.

What does this look like in context?

Henry plots three points on a grid.

Aisha says “You can make a square if you mark another point at $(8, 9)$ ”



Is Aisha correct?

Statistics

What does my child need to be able to do?

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

What does this mean?

Your child can gather relevant data, record the results and then choose the correct way to present it. They also recognise the need to include: a title, labelled axis, appropriate scaling etc.

What does this look like in context?

Here is a table with data from a bakery on how many cakes they sold each day. Choose a way to represent this data.

M	T	W	Th	F	Sa	Su
34	43	46	55	72	86	76

Statistics

What does my child need to be able to do?

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

What does this mean?

Your child can use information to solve problems, such as: How many more children walk to school than go on a bike? How many children go to school in the car?

What does this look like in context?

- Use the data in the table to answer the questions below.

Colour	Number of cars
Black	9
Red	10
Silver	7
Blue	14

How many cars were seen altogether?

Half of the cars were _____.

7 more cars were _____ than _____.

24 cars were _____ and _____.

Three quarters of the cars were _____,

_____ and _____.